Internet-based Support for Creative Collaboration

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Declaration

CERTIFICATE OF AUTHORSHIP/ORIGINALITY

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

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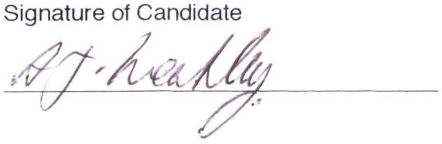

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Some of the material from this thesis has already appeared in (Costello, Weakley et al. 2004; Turner, Neumark et al. 2004; Weakley and Edmonds 2004; Weakley and Edmonds 2004; Weakley and Edmonds 2004; Costello, Weakley et al. 2005; Weakley, Johnston et al. 2005; and Weakley 2006).

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Preface

The work described here concerns the development of Internet-enabled tools to support designers. My personal experience during eleven years as a product designer was that I was usually unable to solve the problems I was given single-handedly. I often had to try to seek help in order to complete the projects in which I was involved. I found the process of finding people to help who were willing, enthusiastic, knowledgeable and creative to be quite a challenge. The work described here is an attempt to assist in this process of locating and engaging people to work with.

It seems that quite often we discover things about one another almost by accident; when chatting over coffee perhaps. This is a process that interests me because I think that it is closely allied to design thinking. It is often the case that a new or useful idea arises when we spot some new, unexpected aspect or connection between something we are working on and something in the environment or something somebody says. These normally are not the kinds of things that one could search for, because until they arrive we don't know what they are. Similarly, no one but the designer knows quite so much about the problem they are working on. It very often must remain up to them to pluck the new information from or to spot the new connection in the available data; it is unlikely that someone else would just happen to mention it.

My experiences during the COSTART2 project (COmputer SySTems for Creative Work: An Investigation of ARt and Technology Collaboration) (Edmonds and Candy 2002; Edmonds, Candy et al. 2005) where I worked as a technologist supporting a series of artists-in-residence saw me at the other side of a number of creative collaborations. In my design practice I had been driving the creative effort and seeking help and assistance from domain experts. In the COSTART2 projects, on the other hand, I was working on projects of the artists' devising and largely at their direction. It was these experiences that made me realise the importance of this role. Whereas as the designer my ideas had often been rather nebulous and it was only with the guidance of some expert that I was able to pin them down, now the boot was on the other foot and I became aware of the influence that my suggestions had on the direction of the COSTART2 projects.

It is common in this sort of creative work to proceed by ruling out options. With some broad aim in mind one might test alternative scenarios whose shortcomings readily become apparent. Once the problem has been explored in this way one can arrive at a much clearer specification of what actually is required. Where one is relying on someone else to present the options in an area with which one is unfamiliar one's thinking and ultimately the direction chosen is strongly coloured by what they suggest. Finding the right expert, and successfully engaging them in the problem is a crucial step towards finding an effective solution.

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Abstract

This work shows that the sharing of non-deliberate communicative actions is important in creative collaboration and that such non-deliberate communications can be shared over the Internet.

Problem

This work concerns computer support for designers. Design work typically involves the solution of poorly-defined problems (Goel 1995; Lawson 1990), and it is often necessary during this process for designers to seek help from and to collaborate with others (Fischer 2000; Ancona and Caldwell 1990). Studies have revealed several patterns of collaboration in creative work (John-Steiner 2000; Candy and Edmonds 2002; Mamykina, Candy et al. 2002), the most successful of which typically involve collaborators working closely together rather than one person acting as an assistant to another. The selection of collaborators must go beyond assessing their expertise and must also include their level of enthusiasm, willingness or ability to become deeply involved with the problem.

When we meet a person face to face, there are two sorts of information available to us in support of our formation of an impression of that person. People may make what Schütz (1967) describes as *"expressive acts"*, deliberate actions intended to communicate some message or to give some impression. In addition, people make "*expressive movements"*, which while informative to an observer, are unintentional and contribute to what Goffman might describe as the impression that the person *"gives off"* (Goffman 1959). There are many tools and processes that allow people to publish or display information about themselves for others to see and to send information to one another. That is, to make expressive acts. An area that has not been so thoroughly covered, either in research or in the design of tools, relates to the sharing of expressive movements.

The problem that this work addresses is how computer-based tools might be used to support the formation of collaborative relationships. In particular, the concern is with the sharing of expressive movements over the Internet.

Methods

As part of the work described here, a number of studies have been carried out:

- A user evaluation of an online scrapbook tool (WISA) described in (Weakley and Edmonds 2004) and with an extended discussion in (Weakley and Edmonds 2005) as well as in (Weakley and Edmonds 2004)

- Three studies of creative collaborations. The first specifically related to requirements for tools to support collaboration (Costello, Weakley et al. 2004; Costello, Weakley et al. 2005). The others reported on experiences of using systems as they are being developed as communication tools while collaborating on a creative work (Turner, Neumark et al. 2004; Weakley, Johnston et al. 2005).

- A survey of how people respond to expressive acts (in this case a person's curriculum vitae) compared with expressive movements (a photograph of the same person's bookshelf).

- A series of repertory grid interviews investigating how people form impressions of others based on a photograph of their workspace (Weakley and Edmonds 2005).

Key Results

The studies showed that interpretation of expressive movements can lead to people forming new impressions about one another and that their exchange can support creative work. The survey confirmed that people gain different insight from expressive movements than they do from expressive acts. The interviews shed light on which of the artefacts that people surround themselves with contribute to which sorts of impression about them.

A tool that goes beyond the exchange of deliberate expressive acts to include the exchange of expressive movements would be useful. The key aspects of such a tool are described.